

Hello, again, from ProPublica.

We have continued our research on a series of stories about estimated cancer risk from toxic industrial air pollution.

The stories are based on our independent analysis of data from the EPA's RSEI model. We analyzed and visualized the spread of cancer-causing chemicals from every major source of toxic air pollution in the country. The multi-year analysis accounts for how these estimated cancer risks add up in every square kilometer of the country. We will be publishing a searchable map displaying the data from our analysis.

We are eager to hear your feedback on the analysis and the methodology, which we detail in the attached letter.

Alongside this data analysis, we also expect to publish various stories. The first of these stories, which we are currently writing to discuss, broadly examines how the implementation of the Clean Air Act fails to adequately regulate air toxics. Building off of our analysis, the story asks how and why the EPA has allowed these pockets of cancer-causing air — what we call, “toxic hotspots” — to take root across the United States. It raises questions about how the federal rules designed to protect Americans from toxic air pollution have left some of the country's most vulnerable communities behind.

Below we have outlined in detail our questions and what we've learned from the reporting we've done for this specific story. (We have been in touch along the way about various questions and we know that some of our colleagues, such as Kiah Collier and Maya Miller, have asked you questions for other, separate stories).

We understand that there isn't a single person at the agency who will be able to speak to our questions, correct any misunderstandings we might have, and/or offer deeper context. Because of this, we are requesting interviews with relevant experts in the following programs and subject areas: air toxics regulated under the Clean Air Act Section 112 (Office of Air and Radiation (OAR)), enforcement (EPA's Office of Enforcement and Compliance Assurance), environmental justice (EPA's Office of Environmental Justice), RSEI & the TRI program (Office of Pollution Prevention and Toxics), and residual risk assessments (Office of Air and Radiation, Office of Air Quality Planning and Standards). We have attempted to steer our questions accordingly to the proper officials at the agency.

We are available any time before 6PM on the 21st to speak about what we've learned, and to learn from you. We would also like to know if there are any inaccuracies in what we've laid out below. We are happy to talk over video, in person, or by phone. Your responses are important to us. We take them seriously and we are eager to engage in these conversations.

Many thanks,

Lylla Younes (318-730-4959), Lisa Song (646-712-0120), and Ava Kofman (347-410-0113)

## **Big picture questions and facts for Office of Air and Radiation--Office of Air Quality Planning and Standards (OAQPS) and Office of Pollution Prevention and Toxics**

### **Our data analysis:**

We analyzed nearly 7 billion rows of RSEI data from the micro data files to estimate industrial cancer risks for the entire country. Unlike the risks from other conditions linked to toxic air pollution, such as asthma and diabetes, cancer risk is [ [HYPERLINK "https://www.researchgate.net/publication/228627335\\_Toxicity-Weighting\\_A\\_Prioritization\\_Tool\\_for\\_Quality\\_Assurance\\_of\\_Air\\_Toxic\\_Inventories" \h](https://www.researchgate.net/publication/228627335_Toxicity-Weighting_A_Prioritization_Tool_for_Quality_Assurance_of_Air_Toxic_Inventories) ]. Therefore, our analysis only includes chemicals that the EPA considers known human carcinogens. To turn the concentration estimates that RSEI outputs into cancer risks, we first removed all of the chemicals in the database that are not considered carcinogenic by the EPA. We then took the remaining chemicals and weighted them by a measure called the inhalation unit risk (IUR). A chemical's IUR is an EPA estimate of the increased cancer risk an individual incurs if, over the course of their lifetime, they are continually exposed to the chemical at a concentration of 1 microgram per cubic meter of air. We then summed up the total weighted concentrations to arrive at a total estimated lifetime cancer risk (ILCR) from all the chemicals in that grid square. This formula comes from a 2007 research paper by EPA engineer David Wright and is a standard for calculating cancer risk from toxic chemical concentrations. We checked our methodology for calculating cancer risk from chemical concentrations with Wright, along with multiple other air modeling experts, including one who used to contract with the EPA to work on the RSEI model. To give readers a better sense of what a "lifetime" of exposure at a given location would be, we averaged the cancer risk estimates over 5 years of data (2014-2018). The result is a map that shows the estimated cancer risk from toxic air pollution if that five-year window were to be constant over a 70-year lifetime.

We then put this data on a map. Our map only visualizes grid cells when the estimated cancer risk is at or above 1 in 100,000. That is, if a community of 100,000 people was exposed to a toxic chemical at a given concentration over a presumed lifetime of 70 years, roughly one individual would develop cancer from the exposure. That risk level is right in the middle of the EPA's "fuzzy bright line," a range of benchmarks for risks that the agency deems "acceptable."

The "hotspots" on our map are areas where there are contiguous grid cells that have estimated cancer risks at or above 1 in 100,000. To generate the hotspots, we wrote a computer program to walk down the grid in every direction until it reached the 1 in 100,000 threshold and then grouped those contiguous areas into "hotspots."

Our methodology identifies multiple sources of error that could result in inaccuracies in the estimated modeled cancer risks in our map. These include:

- Inaccuracies in how facilities estimate emissions
- Inaccurate stack height data

- Toxicity weighting for chemical groups, and the toxicity weight assumptions for some chemicals
- The use of ranges to report emissions
- Lack of penalties for over-reporting or resubmitting data
- Lack of substantial quality assurance
- Imprecise facility locations
- Assumptions that facilities release emissions evenly over the course of a year
- Discrepancies in state and federal data
- Facility ownership changes and closures

Our map should not be used to say with any certainty that an individual case of cancer was the consequence of the toxic releases from a specific industrial facility. Rather, it is a tool for readers to learn about the potential sources of industrial cancer risk near them.

### **ProPublica findings produced by data analysis (Office of Air Quality Planning and Standards (OAQPS) and Office of Pollution Prevention and Toxics)**

We are presenting here the major findings from our analysis of this data. We would like to make sure officials at the agency have the opportunity to share their expertise and offer comments on the following points. Please note that these figures reflect the current state of our analysis, which we may refine.

*ProPublica's analysis found that over 2,200 industrial facilities across the country contributed to the formation of over 1,300 hotspots of cancer-causing air between 2014 and 2018. The modeled data estimates that the largest drivers of cancer risk were three multinational corporations: the Dow Chemical Company, BASF and LyondellBasell (calculated by ranking facilities by the square mileage in which they are estimated to increase cancer risk above 1 in 1 million. We excluded grid cells where no one lives.)*

*The resulting map we made with this data identifies hotspots (which we define as contiguous areas where the estimated cancer risk exceeds 1 in 100,000) of cancer-causing air by looking at cumulative risk. This reveals how current residual risk analyses by EPA don't account for the combined effects from multiple major sources. We make clear that while every source within a region may be abiding by the emissions limits set in their air permits, the combined health effects aren't fully accounted for in Clean Air Act regulations.*

*We ranked chemicals by the number of populated grid cells in which they increased the estimated cancer risk above 1 in 10K. Those grid cells could have higher estimated cancer risk, but for that analysis, we isolated the risk from individual chemicals. The top 10 chemicals in our ranking are: ethylene oxide, chromium and chromium compounds, polycyclic aromatic compounds, cobalt and cobalt compounds, nickel and nickel compounds, 1,3-butadiene, chloroprene, acrylonitrile, naphthalene, and chloroform.*

*The emissions of over 300 facilities in isolation increased the estimated cancer risk of at least one populated grid cell by over 1 in 10K.*

**—Please comment on whether this language for communicating elevated risk is accurate.**

**—Does the EPA have a set of best practices for how estimated cancer risk should be communicated to the public?**

*A quarter of the worst hotspots we identified are in Texas, and almost all of them are in southern states with weaker environmental regulations (We ranked hotspots by the maximum estimated cancer risk within each. Then we took the top 20 of that list. From there we calculated the percentage of the top 20 that are in Texas).*

*Houston and its suburbs comprise one of the biggest hotspots of cancer-causing air in the country, coming in third behind Louisiana's Cancer Alley and Orange, Texas.*

*In our analysis of industry self-reported emissions data from 2014-2018, we found that the danger persists: over 256,000 Americans were exposed to an estimated cancer risk greater than 1 in 10,000 during that time period because of the way the EPA allows facilities to emit toxic air pollution.*

*We found that a single chemical, ethylene oxide, contributes to over half of the estimated industrial cancer risk nationwide.*

*We created a ranking of toxic hotspots by averaging the estimated cancer risk of the grid cells within them. The top 5 hotspots in this list are: Christiansburg, VA; Morganton, NC; Hawesville, KY; Toccoa, GA; and Wilmington, NC.*

*We created a ranking of toxic hotspots by the maximum estimated cancer risk within them. The top 5 hotspots in this list are: Hawesville, KY; Christiansburg, VA; Orange, TX; Port Lavaca, TX; and Morgantown, NC.*

*We created a ranking of toxic hotspots by area. The top 5 hotspots in this list are: Cancer Alley, LA; Orange, TX; Houston, TX; Port Lavaca, TX; Longview, TX.*

**—Are the identities of the hotspots we are visualizing through RSEI already well-known to the EPA? Why or why not?**

**NATA programs (housed with NEI in Office of Air Quality Planning and Standards (OAQPS))**

The EPA publishes its own tool for estimating cancer risk from toxic air pollution, the National Air Toxics Assessment (NATA). While this database is a useful tool for screening cancer risk, we believe that our map is distinct and adds to the conversation around air toxics in several important ways:

1. **NATA estimates the cumulative cancer risk from a variety of sources in addition to stationary industrial facilities.** These include mobile vehicles, naturally occurring air toxics, and wildfires. The purpose of our map is to isolate the emissions from major sources of toxic air pollution, and offer readers facility and chemical specific information at a granular level.
2. **NATA visualizes cancer risk estimations at the county level, across which emissions may vary widely.** Our map provides a national view of cancer risk estimations near the fence lines of industrial facilities. One census tract in Pascagoula, Mississippi, for example, is 47 square miles in size and includes a Chevron refinery as well as a massive wildlife conservation area by the coast. Since the emissions are averaged out over the census tract, it's impossible to see how the risk would be clustered closer to the refinery, and fade out as you get into the conservation area.
3. **NATA only maps one year of data.** However, industrial facilities do not always release the same volumes of air toxics each year. Market forces and technology updates, among other factors, may influence a facility's reported emissions in any given year. To give readers a better sense of what a "lifetime" of exposure at a given location would be, we averaged the cancer risk estimates over 5 years of data (2014-2018).
4. **NATA is published infrequently.** The latest version of NATA was published in 2017 using 2014 data.

#### **TRI and RSEI programs (Office of Pollution Prevention and Toxics)**

*The EPA collects and models hazardous emissions data from every major industrial facility in the country. That data is made available to the public through TRI and RSEI, and the EPA visualizes TRI data, along with other sources of data, through the NATA program. Because NATA provides information on a census tract level, it can be difficult to see what's going on near the fence-line of a facility. NATA does not show precisely how and where industrial pollution elevates someone's estimated cancer risk.*

**—Why does the EPA favor the census tract level data for its public facing analyses instead of the 810 by 810-meter grid cells available in RSEI?**

**—Has the EPA ever run a 5-year analysis of TRI data using RSEI's micro data files? Why or why not?**

**—Our understanding is that the EPA has never released a public analysis that shows cancer risk at the fence-line of industrial facilities. If that is indeed the case, please explain why.**

**—Does the EPA have any concerns about the public being able to access this information in this form? Why or why not?**

*The majority of emissions data come from self-reported estimates provided by industrial facilities, which can be unreliable. The EPA rarely requires facilities to take actual measurements through stack testing.*

**—What steps are taken to ensure the accuracy of this data?**

**—Why are actual monitoring and measurements for hazardous air pollutants few and far between?**

*Given that little measurements or monitoring exists for hazardous air pollutants at the stack, at the fence-line or within communities, modeling the air is viewed by many experts as the best option to understand what's going on in the air. But we have been told by people at the agency that because of a lack of funding and dearth of interest, the EPA's own use of the RSEI tool has been limited.*

*Nicolas Bouwes, an economist who worked with the EPA to build RSEI in the 1990s, recalled an uphill battle to get the screening tool accepted by the agency, let alone shared with the public. He noted that our analysis uses modeled data that the EPA has at their disposal and does not make use of in an accessible way or for screening for potential enforcement.*

**—Why has funding for the RSEI program currently stalled?**

**—Does the EPA have concerns about the RSEI program? What is the source of the lack of interest?**

**—Does the EPA find RSEI valuable? Does it use RSEI as a screening tool for identifying toxic hotspots—or overburdened communities—to help regulators target enforcement, compliance or further monitoring activities? If so, can you point us to specific examples of such activities? If not, why not?**

*One EPA official told us that his supervisors never wanted to publish anything that would directly implicate a facility and that they especially didn't want to make anything public that would raise questions about why the EPA hadn't done anything to regulate that facility."*

**—Did the agency not want to name a facility, and if so, why?**

**—Was the agency concerned about legal action from facilities?**

*Over the course of our investigation, we discovered that some facilities had misreported their emissions to the agency, in most cases by vastly over-estimating the amount of air toxics they had released. This phenomenon might be explained by a lack of incentive to report the correct*

*quantities: while companies may be penalized for under-reporting, they are less likely to be disciplined for overreporting. Furthermore, the TRI is only used to catalog toxic industrial emissions, meaning it is not connected to the EPA's enforcement division. This means that the agency may not investigate even highly toxic and concerning releases reported to the TRI.*

*TRI's submission forms do not allow companies to specify which form of chromium they are emitting. Companies can only report the total amount of chromium they are emitting, rather than distinguish between the trivalent or a hexavalent kind.*

*To address potential sources of large-scale error in the map that may have resulted from mistakes made by companies in reporting their data, ProPublica reached out to the 200 facilities with the greatest number of toxic emissions that our analysis identified. Since some of those facilities have closed, we ultimately reached out to 193 facilities. Approximately 56% of the companies that we reached out to responded to us. Of the 109 companies that responded to us, approximately 71% confirmed that their reported emissions were correct, and 29% noted errors of varying degrees, which we engaged with them to correct. Facilities told us that their reporting for the chromium was incorrect in over a quarter of the misreporting cases that our fact check surfaced. RSEI deals with this lack of specificity by making broad assumptions about the amount of hexavalent chromium facilities are releasing. Every industrial facility that reports to TRI is by the primary type of work that it performs or manufactures. These classification categories, like "shipbuilding" or "petroleum refinery," are known as NAICS code. For NAICS codes that are associated with chromium emitters, such as the category of "chrome plating facilities," the EPA assigns a percentage for the amount of the total chromium emissions that are hexavalent chromium. This can lead to significant toxicity overweighting (where a facility looks like it's releasing far more of a carcinogen than it actually is), which results in overestimates of cancer risk generated by some of the chromium emitters on our map.*

### **Clean Air Act and Air Toxics (Office of Air and Radiation--Office of Air Quality Planning and Standards (OAQPS))**

Our reporting on the Clean Air Act is summarized below for any comments, context, and corrections.

*Fifty years ago, the Clean Air Act promised to safeguard the health of all Americans, regardless of where they lived. But our reporting has found that for Americans who live near industrial facilities, that promise remains unfulfilled. This is, in part, due to how the CAA regulates criteria pollutants more strictly than it does hazardous air pollutants. To be sure, hazardous air pollutants affect far fewer Americans and tend to be concentrated near industrial areas. However, while the country's overall air quality has dramatically improved since the passage of the CAA, we have found that people who live in so-called fence-line communities continue to suffer from air pollution that may significantly elevate their cancer risk. In our stories we refer to these areas as "toxic hotspots."*

**—Why has the Clean Air Act set very few strict limits when it comes to the 187 hazardous air pollutants? We understand some of these reasons may be due to technical, funding and scientific difficulties: can you elaborate?**

**—Does the agency agree with the assertion that the elevated estimated cancer risk surrounding industrial facilities represents a shortcoming of the CAA? Why or why not?**

**—Does the EPA plan to take any actions to lower the elevated cancer risk in these areas?**

*The Clean Air Act stipulates that when concentrations of a criteria pollutant exceed safe thresholds, local and state governments have to slash emissions or face financial penalties. In 1970, when the Clean Air Act was passed, some of the health effects of hazardous air pollutants were well documented but we've been told repeatedly that there wasn't enough research at the time to roll out strict standards. We were told that scientists were still struggling to track where these chemicals came from, how far they traveled and how often they were being inhaled. We describe the research efforts as sluggish and note that by 1990, the EPA had just seven new standards for hazardous air pollutants. Some officials at the EPA have said that in 1990 when it came to reducing concentrations of harmful chemicals like benzene and naphthalene near industrial facilities, the Clean Air Act was a resounding failure.*

**—Did the EPA put the health of those living near industrial facilities at risk during the period of 1970 to 1990 due to the lack of standards around air toxics?**

*Our understanding is that the White House Office of Management and Budget, the body that allocates funding for the EPA, starved the air toxics program of funding.*

**—Does the EPA agree with this characterization?**

**—What are some of the reasons that the agency was not able to receive as much funding for hazardous air pollutants as it was for criteria pollutants?**

*Why doesn't the EPA regulate HAPS more strictly? We have found that the EPA largely trusts facilities to report how much pollution they are emitting. And instead of setting strict limits for each individual chemical, as it does for criteria pollutants, the EPA requires companies to outfit their facilities with equipment that would reduce the overall amount of pollution they emitted.*

**—Did industry engineers and lobbyists have more of a say in the rulemaking process than the public or environmental groups?**

**—Why do companies have a say in how expensive their MACT equipment is? Does this reduce the effectiveness of the technology installed to control pollution?**

*Dan Costa, a scientist and former EPA official who led the agency's air research program from 2005 to 2018 said that the technology-based approach to reducing emissions remains "very inexact." said. "It's like your parents saying, 'Just do the best you can.'"*



**—What is the EPA's response to this characterization?**

*The part of the Clean Air Act known as “Once In, Always In” required major sources of pollution — facilities with the capacity to emit more than 10 tons a year of a toxic chemical — to meet technology and pollution-reporting requirements even if their emissions dropped below the threshold. In 2018, it was reported that under the influence of industry trade groups, then-EPA Administrator Scott Pruitt issued a memo that allowed thousands of large-capacity emitters to turn down, turn off, or disconnect their pollution controlling equipment. The EPA[ [HYPERLINK "https://blogs.edf.org/climate411/2020/05/11/the-trump-administrations-air-toxics-loop-hole-would-intensify-environmental-injustice/" \h \]](https://blogs.edf.org/climate411/2020/05/11/the-trump-administrations-air-toxics-loop-hole-would-intensify-environmental-injustice/)  [that under the new rules, 86 facilities could collectively increase hazardous air pollution by as much as 2.4 million pounds per year.](https://blogs.edf.org/climate411/2020/05/11/the-trump-administrations-air-toxics-loop-hole-would-intensify-environmental-injustice/)*

**—Why did the EPA decide to end the “Once In, Always In” Policy? What has the agency seen as the major benefits that have resulted from undoing this policy?**

**—It appears from the EPA’s own analysis, as well as the analysis of groups like the Environmental Integrity Project, the concentration of hazardous air pollutants could substantially increase under the policy. Why was such an increase seen as acceptable and/or beneficial in the view of the EPA?**

**—Some environmental justice advocates have noted that given the studies showing that hazardous pollution is both elevated in Black neighborhoods and emitted at higher rates in those locations, the effects of undoing this policy will be disproportionately borne by Black Americans. Was this disparate impact on Black lives something that the EPA considered when reversing this policy? Why or why not?**

**Risk assessment and risk communications (Office of Air and Radiation--Office of Air Quality Planning and Standards (OAQPS))**

*The EPA considers an estimated cancer risk of 1 in 10,000 as unacceptable. Our analysis of the modeled data found that air pollution from industrial plants is elevating the cancer risk of more than 250,000 people to a level that the Environmental Protection Agency considers unacceptable.*

**—When a given area’s cancer risk exceeds the 1 in 10,000 threshold, would the EPA call that cancer risk unacceptable, unsafe, or some other term? What does it mean for risk to be unacceptable? What further actions does the agency take when a risk is considered unacceptable?**

**—If the EPA finds an area where the elevated cancer risk around industrial facilities is higher than 1 in 10,000, officials can — but are not required to — investigate whether the**

**risk is actually that high, why it might be the case and take steps to lower the risk levels. How often does this happen?**

**—If a facility is within its permit limits, but the cancer risk in the area in which the facility is permitted is higher than 1 in 10,000 would the EPA take any steps to mitigate the risk from industrial facilities?**

**—Why isn't this limit a bright line?**

**—Has the EPA ever calculated how many Americans may be exposed to air pollution from industrial plants at a cancer risk level above 1 in 100,000? Why or why not?**

*We found that more than 74 million people are estimated to be exposed to levels considered unacceptable under the text of the 1990 Clean Air Act Amendments, having a 1 in a million risk. The 1990 CAAA states: "If standards promulgated pursuant to subsection (d) of this section and applicable to a category or subcategory of sources emitting a pollutant (or pollutants) classified as a known, probable or possible human carcinogen do not reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than one in one million, the Administrator shall promulgate standards under this subsection for such source category." The statute also references the EPA's 1989 benzene NESHAP, where EPA settled on 1 in 10,000 as the acceptable cancer risk threshold. That risk level was created not through peer-reviewed research but by a report that compared the risks of dying from chance events. The document, which was prepared for the EPA administrator under President George H.W. Bush judged death from "ignition of clothing" to be 10 times more likely than death from the consumption of "venomous plants." Meanwhile, a cancer risk of 1 in 10,000 was described as about 100 times less likely than the risk of drowning. (This document is Docket No. OAQPS 79-3, Part I, Docket Item X-B-1). In other words, the 1990 CAAA offered two very different cancer risk thresholds. In the early 2000s, when the EPA began writing RTRs for source categories, they chose to use the less stringent 1-in-10,000 number. But the 1 in a million threshold is still in the statute, and many environmentalists and health experts say EPA could, and should, go back to using the stricter, 1-in-a-million threshold.*

**—Does the agency have evidence it can share with us to demonstrate why this less stringent 1-in-10,000 risk level is adequately protective?**

**—Do you agree with the characterization by some critics that the 1 in 10,000 risk limit is not rooted in the scientific method? According to this [ [HYPERLINK](https://www.jstor.org/stable/24786012?read-now=1&refreqid=excelsior%3A8582955136cf4a8c8c9e9f95f2700263&seq=51) "https://www.jstor.org/stable/24786012?read-now=1&refreqid=excelsior%3A8582955136cf4a8c8c9e9f95f2700263&seq=51" \l "page\_scan\_tab\_contents" \h ], "...the only rationale articulated by the EPA for its selection of 1 in 10,000 as an acceptable risk was that it 'falls roughly into the middle of the risk range developed in the survey of risks.' Even if one agreed...the middle of that range is still arbitrarily determined by the risks selected and presented by the Agency. For example, if the EPA had instead presented a survey of everyday risks ranging from 1 in**

100 to 1 in 100 million, then the middle, and therefore 'acceptable,' risk would have been 1 in 100,000."

**—How does the EPA respond to the contention put forth by environmental lawyers that since our knowledge about air pollution and the sophistication of the equipment designed to control it had greatly advanced since 1989, the standard is overdue for a review?**

*Industrial facilities need permits to operate, which is where state and local officials come in. They are largely responsible for approving and denying these permits, which are called Title V. When deciding whether a permit should be approved, states are not required to consider how the new sources of pollution being proposed may add onto risk from other types of pollution nearby communities already face. Local officials usually approve these permits with little pushback.*

*We have found that the approach to assessing the risks of industrial pollution favored by the EPA and state and local regulators dramatically underestimates the consequences for people who are breathing in the air. When the agency undertakes a risk assessment, it does so by considering each toxic chemical and each type of industrial facility in isolation. For example, if the EPA is assessing the safety of a plastics manufacturing plant emitting ethylene oxide, it does not consider the toxic emissions of the petroleum refinery next door. This avoids addressing the "cumulative risk" that may be present in an area. Each individual risk calculated by the EPA may be "acceptable" or "safe", but taken together, the harms can be substantial. The EPA has acknowledged this in its own research. But without considering cumulative risk, it can be difficult for residents as well as for regulators to see how an area may in fact present elevated risks to the health of the area.*

*A former EPA employee, among others, noted that it shouldn't be difficult for the EPA (and the regional and state agencies to which it delegates permitting authority) to account for various chemicals in aggregate, since all of this information is collected by the EPA and ultimately regulated by the agency. ProPublica has used the EPA's own information in its analysis to present a comprehensive view of cumulative impact.*

**—Has the EPA ever considered a cumulative impact analysis when evaluating compliance or enforcement actions in a given area?**

**—Why does the EPA prefer not to account for how risks from various source categories, chemicals and facilities may combine and compound one another? (The EPA's Science Advisory Board [ [HYPERLINK](https://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/%24File/EPA-SAB-10-007-unsigned.pdf)**

**"<https://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/%24File/EPA-SAB-10-007-unsigned.pdf>" \h ] cumulative risk).**

**—Some sources have suggested that the EPA avoids addressing or visualizing the cumulative impact of cancer risks in order to avoid having to take action to reduce these risks. Is this a fair statement? Why or why not?**

**—Does the EPA believe that accounting for cumulative risk would allow the agency to better communicate cancer risk to the public? Why or why not?**

*The EPA has acknowledged in its own research that “Since risk will be influenced by aggregate and cumulative exposures, finding that a source category has no significant risk from a particular chemical, or a mixture of chemicals does not mean that people in the area are without risk from that chemical or mixture. For example, Houston faces particularly difficult air toxics challenges due to the significant air emissions from one of the largest petrochemical complexes in the world. There are more than 100 benzene sources alone from refineries and chemical plants in the Houston area. Harris County, in which Houston is located, over 19 million pounds of hazardous air pollutants were emitted in 2003, including 750,325 pounds of benzene according to the EPA’s 2003 Toxic Release Inventory (TRI) report. From a public health viewpoint, personal exposures resulting from occupational or behavior (e.g., smoking) sources can also contribute to risk beyond that of a particular source category.”*

**—Given that the EPA has acknowledged this as a shortcoming of its own risk assessment paradigm, why does EPA not account for the pre-existing risks from neighboring sources?**

#### **Health problems that may be linked to prolonged air toxics exposure (Office of Air Quality Planning and Standards (OAQPS))**

*In the course of our reporting, we’ve talked to a lot of people who have experienced cancer and other health conditions that they believe may be linked to living near industrial facilities. For this particular story, we’ve talked with residents in Houston and Mossville who complain of various health effects and cancers that they suspect might be linked to the pollution.*

**—Does the EPA have recommendations for people living in these areas who want to protect their health?**

**—When the EPA hears from residents who suspect they live in a cancer cluster, what steps does it take?**

**—Would the EPA recommend that residents continue with all outdoor activities and their current lifestyles even in areas where the cancer risk is higher than 1 in 10,000?**

*It is no doubt difficult to prove that hazardous chemicals cause illness, but the evidence in Mossville, Louisiana has accumulated: An EPA study from 1998 found chemical toxics in the air that were 100 times higher than the national standard. Another study from the EPA found*

*extremely elevated levels of dioxins in the residents' blood. Yet another found that 84% of residents had some sort of central nervous system disorder.*

**—Were the levels and concentrations of air toxics found in the air and in residents' blood acceptable? Why or why not?**

**—Does the EPA stand by this research about what it found in Mossville? Why or why not?**

**—Does the EPA plan to conduct further research in this area?**

*Ethylene oxide, lingers in the air for months and is highly mutagenic, meaning it can alter DNA. It can lead to lymphoma, a cancer of the lymphatic system, after just four years of exposure.*

**—Why is it permitted to be emitted at such high levels?**

**—Why did it take so long for the EPA to conduct research to evaluate the cancer risks of ethylene oxide?**

*Residents in fence line communities told us they struggle with a variety of health issues beyond cancer, including asthma, throat irritation, skin conditions and chemical-induced diabetes.*

**—Do these symptoms concern the EPA? Why or why not?**

**—Does the EPA plan to take actions to monitor, mitigate, or improve the air quality in fence-line communities? If so, what are those actions? If not, why not?**

### **Environmental justice and civil rights (Office of Environmental Justice)**

*The EPA's own researchers, among others, have noted that the people in these fence-line communities who are most impacted by industrial air toxics releases are disproportionately Black and that overall people of color are more likely to be exposed to industrial pollution. As early as 1992, a deputy administrator noted "At EPA, there is no longer any doubt that people of color are hit hardest by pollution." As mentioned above, our analysis of EPA data estimates that across the country, industrialized census tracts with majority non-white populations experience 25% more toxic air pollution than majority-white tracts. Our analysis also estimates that in predominantly Black census tracts, the levels of toxic air pollution are nearly double those of majority white tracts. Our findings build on decades of evidence demonstrating that people of color bear disproportionate risks from air pollution and that these risks persist across income levels.*

**—Are there any current policies that are directly focused on reducing industrial emissions in these so-called "environmental justice areas"? If not, why not?**

**—Some advocates allege that the disparate impact borne by Black neighborhoods has resulted from a lack of prioritizing civil rights considerations in permitting processes for the build-out of industrial plants. Is this view accurate or fair? Why or why not?**

**—Many experts have noted that simply reducing overall emissions, as the Clean Air Act has attempted to do, will not fully reduce racial disparities, since Black people[ [HYPERLINK "https://naacp.org/wp-content/uploads/2017/11/Fumes-Across-the-Fence-Line\\_NAACP-and-CATF-Study.pdf" \h](https://naacp.org/wp-content/uploads/2017/11/Fumes-Across-the-Fence-Line_NAACP-and-CATF-Study.pdf) ][ [HYPERLINK "https://naacp.org/wp-content/uploads/2017/11/Fumes-Across-the-Fence-Line\\_NAACP-and-CATF-Study.pdf" \h](https://naacp.org/wp-content/uploads/2017/11/Fumes-Across-the-Fence-Line_NAACP-and-CATF-Study.pdf) ] 75% more likely than other Americans to live near a source of pollution. Has the EPA considered instituting any policies that would address these racial disparities?**

**—Are these disparities a problem, and do they reveal any shortcomings in the Clean Air Act?**

*Some environmental justice scholars have taken to describing these areas as sacrifice zones. What they mean by this is that the health and livelihood of low-income, African American, indigenous communities are “sacrificed” for the economic benefit of the region or the state or the country. In the view of advocates, such sacrifices are not accidental but the result of a political compromise that has kept an inadequate regulatory system in place.*

*In a 2004 report, the EPA approvingly quotes the scholar Robert Bullard, who wrote that “no community, rich or poor, Black or white, should be allowed to become a ‘sacrifice zone.’” Yet despite decades of news coverage and scientific research, towns like Mossville, Louisiana have become such zones. Residents there have asked us, “when is enough pollution considered enough pollution?”*

**—What is the EPA’s response to that question?**

*Residents are concerned that certain neighborhoods may be overtaken by industry in the same manner as Mossville has been.*

**—Is this a valid concern? Why or why not?**

**—What processes are in place, if any, to check the tide of industrial development?**

**—Has the EPA considered instituting buffer zones between industrial plants and residential neighborhoods, so that the latter are more safely distanced from the former? Why or why not?**

**Enforcement and compliance (EPA’s Office of Enforcement and Compliance Assurance)**

*The environmental protections afforded to Americans vary widely between states and even within them. That's because the EPA delegates the majority of its permitting and enforcement powers to state and local authorities.*

**—Why does the EPA delegate most of its power to the states? Is this structure of cooperative federalism effective? Why or why not?**

*In the wake of an executive order from the White House, the new EPA administrator, Michael Regan, directed the agency to strengthen its enforcement of violations “in communities overburdened by pollution.”*

**—What has that enforcement looked like so far? Apart from the action taken at Limetree Bay on St. Croix, can you point us to the specific actions the EPA has taken to strengthen enforcement of violations in communities overburdened by pollution?**

**—Has the EPA as it is currently run under Regan taken (or directed Louisiana or Texas authorities to take) any enforcement actions in Cancer Alley or Houston, the two major hotspots identified by our analysis of EPA data?**

*Without equal protection and greater enforcement, industrial facilities may be allowed to emit large volumes of toxic chemicals that together compound the health risks in the area. A lack of enforcement and compliance, advocates say, will turn fence-line communities into “sacrifice zones,” areas in which the people must bear a greater share of the impacts of air pollution from concentrated industries. We cite Mossville, Louisiana, where there has been continued industrial development, as one example of a place that experiences cumulative risk and cumulative impacts from hazardous air pollution.*

*Thomas McGarity, an environmental lawyer who once worked in the EPA’s Office of General Counsel told us that the EPA has a lot of power, but it has always been reluctant to use it. He pointed to the fact that the EPA delegates most of its power to the states and that enforcement actions have gone down, as documented by this story in the Times.*

**—Does this characterization of “being reluctant to use enforcement power” strike you as accurate or inaccurate? How would you characterize the EPA’s track record on enforcement since 2016?**